

Final Paper Guidelines

Math 300 — Hachtman

Spring 2019

1 What is required

A paper of length 7-10 pages, written in L^AT_EX with good formatting, on a **topic in math of your choosing**.

The paper must include

- Some history and context for the topic being discussed.
- “Textbook-style” mathematical exposition, giving rigorous definitions of objects being studied, and enough background to give *at least* one **complete proof** of some basic result (theorem, proposition, etc.).
- A full bibliography made using tools in L^AT_EX (e.g. bibtex).

2 What is *not* required

I do not expect you to discover new mathematical theorems or proofs for this paper. Rather, the goal is for you to find something you are interested in, teach yourself some mathematics, and explain it to me.

3 Topic selection guidelines

The subject you choose should be one that you can reasonably expect to fit the criteria above.

The topic should go beyond the material covered in math classes you’ve taken up to now. So you would not want to write an introduction to equivalence relations if you have taken 215, or to groups if you’ve taken abstract algebra.

On the flipside, you do not want to be too ambitious. If you’re interested in a particular theorem, you should at least be able to understand the *statement* of the theorem (and ideally, *not* its proof!) before undertaking your research.

4 Schedule of due dates

More details on expectations for each portion of the assignment will be given as their due dates approach.

- In class, week 6: **Topic brainstorming**. In advance, do some looking around for a few options of what you might like to write about, and what you might try to present a proof of in your paper; and bring these to class with you.
- Friday, March 1 (week 7): **Topic proposal**. A one-page description of a tentative plan for your paper.
- Friday, March 22 (week 10): **Paper outline**
- Friday, April 19 (week 13): **First draft**
- Tuesday, May 7 (finals week): **Final paper submission due**